

Amongst the DIPTERA which I took at Digne in May and June of this year were *Mesembrina meridiana*; *Chrysotoxum arcuatum*, Panz.; *Merodon clavipes*, Fabr.; *Tabanus ater*, Fabr.; *Sargus irridatus*; *Lucilia caesar*; *Chloromyia formosa*, Scop.; *Xylota sylvarum*, Meig.; *Fristalis nemorum*, L.; *F. pertinax*, Scop.; *Bombylius pictus*, Panz.; *B. medius*, L.; *Fallenia fasciata*, Fabr.; *Bibio leucopterus*, Mg.; *Machaerocera grandis*, Rond.; and others.

In conclusion I must again express my thanks to those Naturalists both of the South Kensington Museum Staff and others who have so kindly assisted me to determine the species found on this trip.

Notes of Collecting in Spain in 1925-26.

By DR. E. ROMEL.

In the *Ent. Rec.*, 1925, p. 26, I made a few remarks about our Spanish collecting. During the two past years we have made two other trips to Spain and we have visited Sierra Nevada, Moncayo, Cerdanya, Montseny Mass, Sierra Guadarrama and Serrania of Cuenca. A few remarks about what we have observed, may be not uninteresting to your readers.

1. *Zygaena (Hyalia) sarpedon*, Hb.—Rambur gave the name *hispanica* to the dull and transparent form which he collected in Andalusia along the coast-line (*Cat. Sys. Lep. de l'Andalousie*, 167). Oberthür (*Lep. comp.*, IV., p. 454) remarks that a similar form lives also in Castile.

In Serrania of Cuenca (Eastern Castile) we have met with a form of *sarpedon* as poorly scaled as the one described by Rambur. It flies in the environs of Cuenca during the month of July.

In Sierra Nevada, at the level of 3,500 ft., above Guadix, we have found quite a different form of *sarpedon* from the *hispanica* of the lowest spots of Andalusia; this form is thickly scaled and bright red coloured as *balearica*, B., and *carmencita*, Ob. To call the attention to the natural phenomenon that the Andalusian *sarpedon* varies according to altitude I propose to name **bethunei**, the showiest race which emerges in June, in alpine surroundings, on the northern side of Sierra Nevada.

The Spanish *sarpedon* varies everywhere in a considerable way. In my large series of *hispanica* from Cuenca, and *variabilis*, Bgff., from Catalonia, I see a few specimens which are very like Hübner's type figures, on the other hand the typical form never occurs in my series of more than one hundred individuals of *bethunei*, the blue margin of the hindwings always being much thinner than in typical forms.

All the males of *bethunei* differ in a striking way from those of *hispanica*, in which the basal zone of the hindwings is perfectly transparent, while in *bethunei* the red scaling of the hindwings is uniform. This differential character is not absolute in the female sex because in my series of 30 females of *hispanica* from Cuenca I see 3 specimens in which the hindwings are as uniformly scaled as in those of Guadix. The most peculiar difference between *hispanica* and *bethunei* is that it is difficult to differentiate sexes in the Sierra Nevada form, while the males of *hispanica* are always much duller than the females so that the sexes can be identified at first sight.

Bethunei differs from *balearica* by the extent of the apical spot of the forewings which is small and round; exceptionally we have found two aberrant specimens, one male and one female (Lord Rothschild's collection Nos. 754-755) in which the red pattern of the forewings and apical spot are so extensive that they resemble *loyselii* as it is figured by Oberthür, *Ét. Lep.*, 1890, ff. 76, 77. Of course in the Andalusian individuals the red collar is missing.

The race *bethunei* is allied to the most widespread French race which Oberthür named *carmencita*, but the forewings are not so green as in France and the blue band of the hindwings is less extensive.

Burgel (Kommentar, No. 147) named the Catalan race, which really varies in a surprising way, *variabilis*. I possess some specimens from Catalonia which do not differ from Hübner's type figure, a few others are still darker than those of *hispanica* and *trimaculata*, Esp., many are as bright as those of *bethunei*; however, I remark that the reddest specimens from Northern Spain are more thickly scaled and that the red spots and dashes are more reduced than in *bethunei* from Southern Spain at high level.

2. *Zygaena (Thermophila) trifolii*, Esp. — The sub-species we have collected, in June, 1925 and 1926, near Jerez del Marquesada, in Sierra Nevada, at the level of about 3600ft., varies in a considerable way by the extent of the blue band to the secondaries. Rambur sent to Lederer some specimens from Sierra Nevada by the name of *australis* (Ramb., *in litt.*) and Lederer published that name which remains to Andalusian *trifolii*.

Oberthür named the extreme variation of *australis* in which the hindwings are very dark, *caerulescens*. In speaking about the variation of the Spanish *trifolii* it is indispensable to distinguish also the opposite variation to *caerulescens* in which the blue border of the secondaries is most reduced. This light form looks so different from the dark one, that reading Rambur's papers it seems he was doubtful they may belong to the same species.

Not to add a new name to literature we may apply the one of **tenuelimbata**, which Verity (*Ent. Rec.*, 1921, p. 147) used for one of the variations of *jilipendulae*, to the lightest form of Andalusian *trifolii*. Rambur, on Pl. I of his *Cat. Syst. Lep. And.*, figures the three forms of *trifolii* from Sierra Nevada: f. 5 is *caerulescens*, f. 6 represents the most frequent form *australis* and f. 7 is *tenuelimbata*.

In my series of about 800 *trifolii* from Sierra Nevada there is one female (Lord Rothschild's coll., No. 774), in which the hindwings are so dark that the specimen resembles Oberthür's ff. 72, 73 (*Ét. Lep.* 1890, Pl. 8) of *seriziati*. However, while in the *seriziati* the median spots are confluent, in my aberration they are sharply separated, but I have several *trifolii* from Andalusia (Lord Rothschild's coll., Nos. 768 to 769) in which the median spots are confluent but the secondaries are as light as in *seriziati* f. 71 (Obthr., l.c.).

The form *caerulescens* and the specimens of the most frequent form of *australis* are so peculiar to the Andalusian fauna that it is quite useless to compare them with the other named forms of European *trifolii*; instead the extreme form *tenuelimbata* is more allied to the form of *trifolii* from Central and Northern Spain.

After having reunited all the *tenuelimbata* of my set I am comparing

them with my series of *intricata*, Sag., from Llobregat near Barcelona. Not even one individual from Andalusia is like any of Catalonia: the specimens of *intricata* are always more greenish, the red tinge is paler and the border of the secondaries is thinner.

Trifolii from Serrania de Cuenca, in Castile, is intermediate between *teuelimbata* and *intricata*; the male specimens are as metallic blue as the Andalusian ones, while the females are as greenish as those from Llobregat.

3. *Zygaena (Polymorpha) transalpina*, Esp.—Is very scarce in Spain. Burgeff (Komm. 285) named the Northern Spanish race *centricat-alonica*.

I find that *transalpina* is never recorded from Central Spain. We have collected some specimens of *transalpina* early in August, 1926, in the Serrania de Cuenca (Castile). The tinge of these individuals from Central Spain is the same as Catalan *transalpina*, the underside of the forewings is as widely suffused with red scaling as in the western races of this species; however, the two apical spots of the forewings are as sharply separated as in Italian specimens, and the blue margin of the hindwings is thinner than most named forms.

The *transalpina* from Cuenca, which I propose to distinguish by the name of **philippsi**, is allied to *provincialis*, Ob. (*Lép. Comp.*, 1904, ff. 192, 193) but the size of the females is larger, the red spots are bigger and the red ring to the abdomen is always missing.

Philippsi is also remarkable for its habitat, which is the most occidental in Europe.

(To be concluded.)

Some Swiss Butterflies in 1925 and 1926.

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(Concluded from page 91.)

123. *T. acaciae*, Fb.—Eclépens: July 12th and 14th, 1926, common on *Sambucus* flowers with the two preceding species. This is reputed a rare species in Switzerland, where the local race is *nostras*, Courv.

125. *Zephyrus betulae*, Linn.—St. Maurice: September 10th, 1925, one male, worn. Villeneuve: September 16th, 1925, one female, rather worn. Blonay: September 19th, 1925, one rather worn female; October 18th, 1925 (surely a very late date), one worn female.

127. *Callophrys rubi*, Linn.—Grimmialp: July 16th, 1925, one worn male. Martigny: June 11th and 26th, 1926, common but mostly worn; flying around *Rubus* bushes and settling on the leaves with wings canted right over until they were nearly parallel with the surface of the leaf; also noted in some numbers sporting around beech. Les Avants: June 12th, 1926, one fresh ab. *immaculata*, Fuchs; June 21st, 1926, a few seen, rather worn.

128. *Chrysophanus virgaureae*, Linn.—Evoléne: July 29th, 1925, one fresh male. Arolla: abundant throughout August, 1925, the first females noted on August 8th; the males all worn, but some females fresh, by the end of the month. Bérisal: abundant from July 19th to September 4th, 1926, from about 4,500 to over 6,000 feet; the first